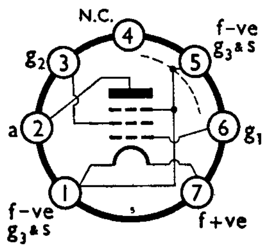
MINIATURE
VARIABLE-MU R.F. PENTODE
1·4V DIRECTLY HEATED

W17

OCTOBER, 1951

BASE CONNECTIONS AND VALVE DIMENSIONS



View from underside of base.

Base : B7G
Bulb : Tubular.

Overall length :	49—55	mm.
Seated length :	43—49	mm.
Max. diameter :	19	mm.

RATING

V_f	1·4	V
I_f	0·05 approx.	A
V_a	90 max.	V
V_{g2}	67·5 max.	V
I_k	5·5 max.	mA
r_a } at $V_a=90$, $V_{g2}=67·5$, $V_{g1}=0$	0·5	MΩ
g_m } at $V_a=90$, $V_{g2}=67·5$, $V_{g1}=0$	0·9	mA/V

CAPACITANCES

c_{g1-all} 3·6 pF c_{a-all} 7·5 pF c_{a-g1} 0·01 pF

TYPICAL OPERATION

V_a	45	67·5	90	90	V
I_a	1·7	3·4	1·8	3·5	mA
V_{g2}	45	67·5	45	67·5	V
I_{g2}	0·7	1·5	0·65	1·4	mA
V_{g1}	0	0	0	0	V
*V_{g1}	−10	−16	−10	−16	V

*For $g_m = 10\ \mu A/V$.

The screen grid may be supplied from a 90 volt source via a series resistor but the screen grid voltage must not exceed 67·5 at zero control grid voltage.

FILAMENT OPERATION

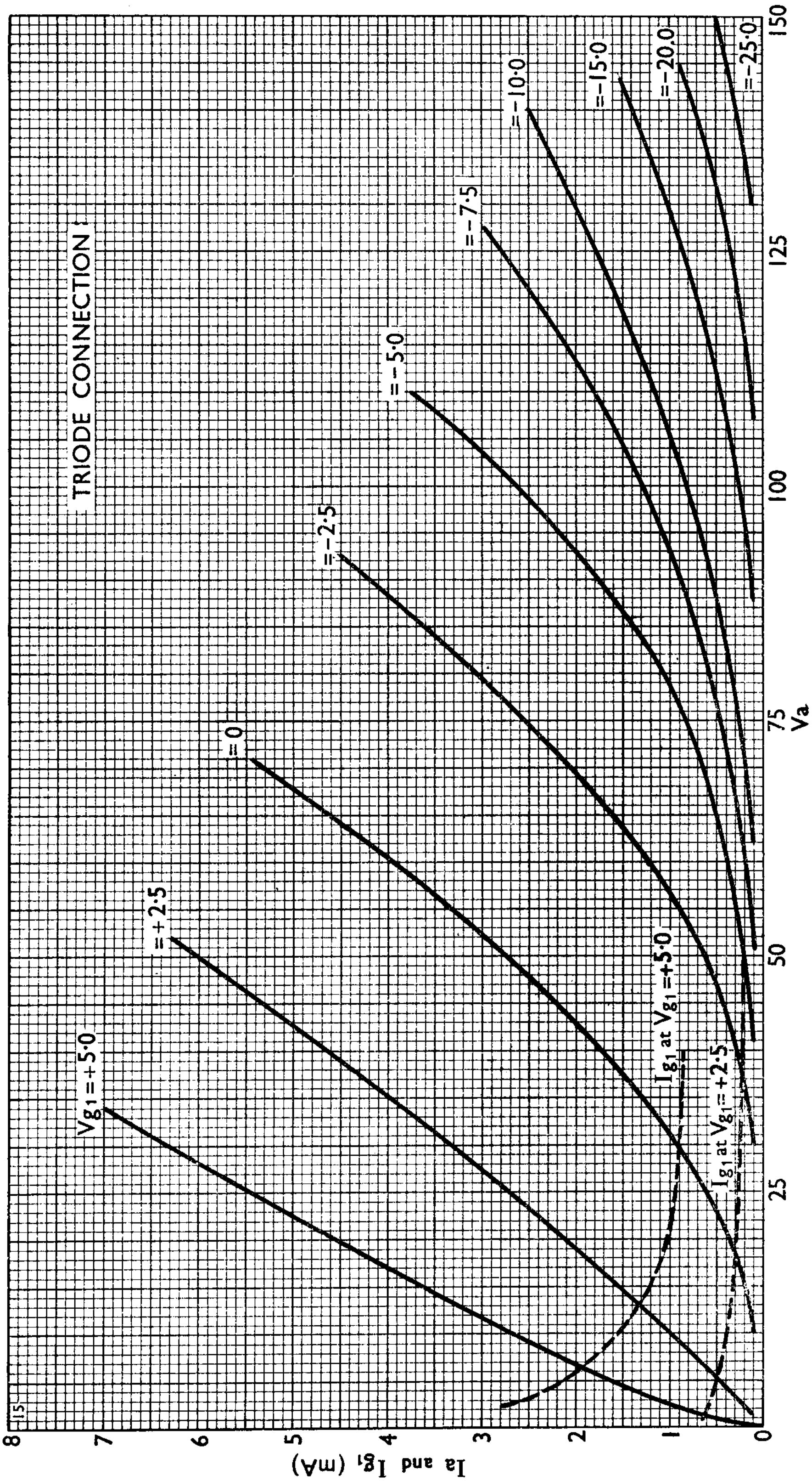
When operating the filament from a mains supply, the voltage should be adjusted to 1·3 or the current to 47·5 mA mean. Under certain conditions, a suitable shunt resistor will be required.

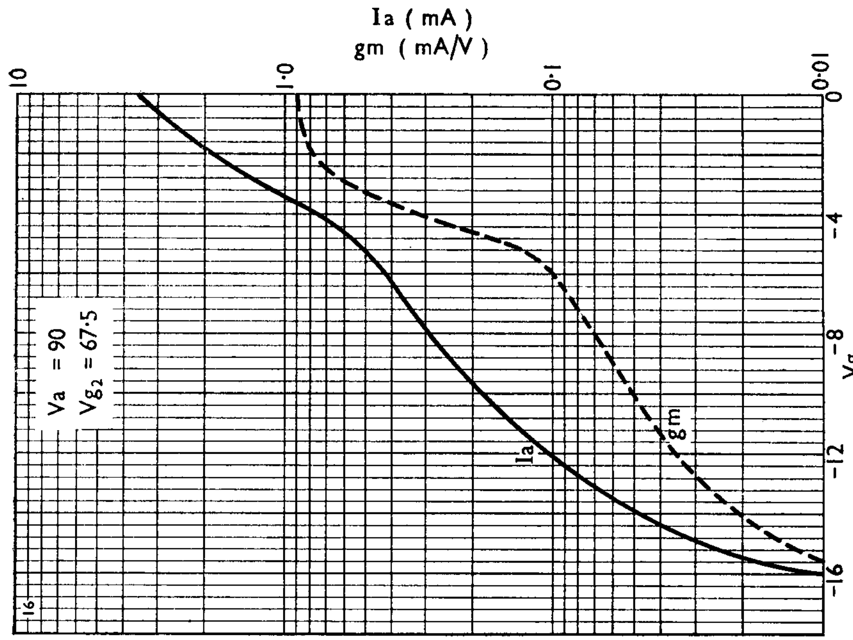
SCREENING

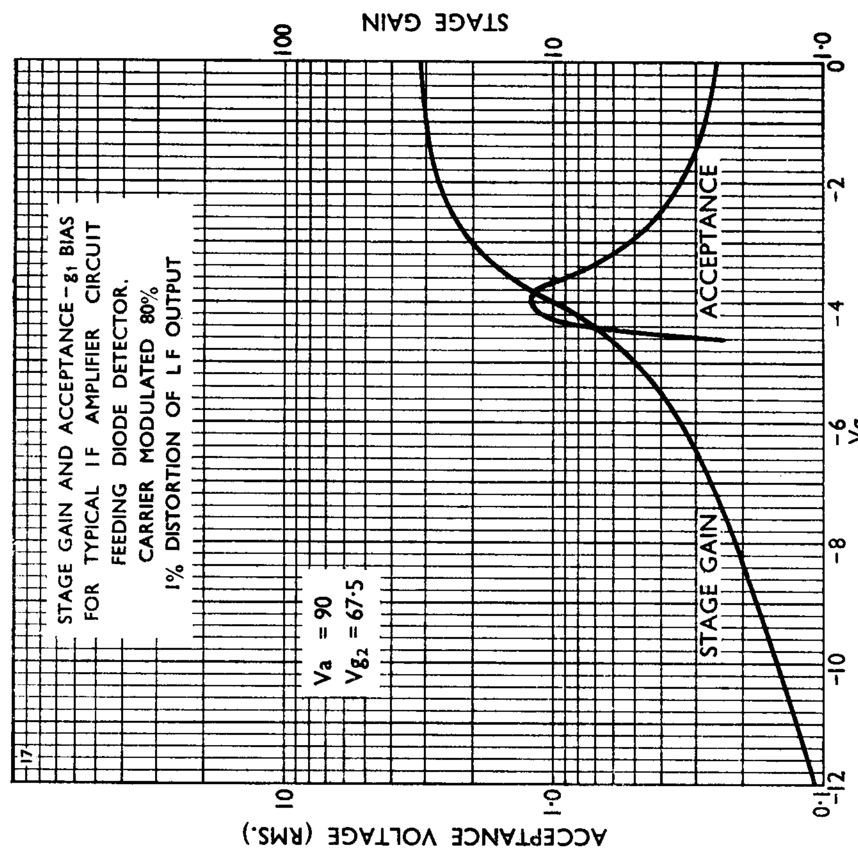
An internal screen is fitted and is connected to pins 1 and 5.

MARCONI'S WIRELESS TELEGRAPH COMPANY LIMITED

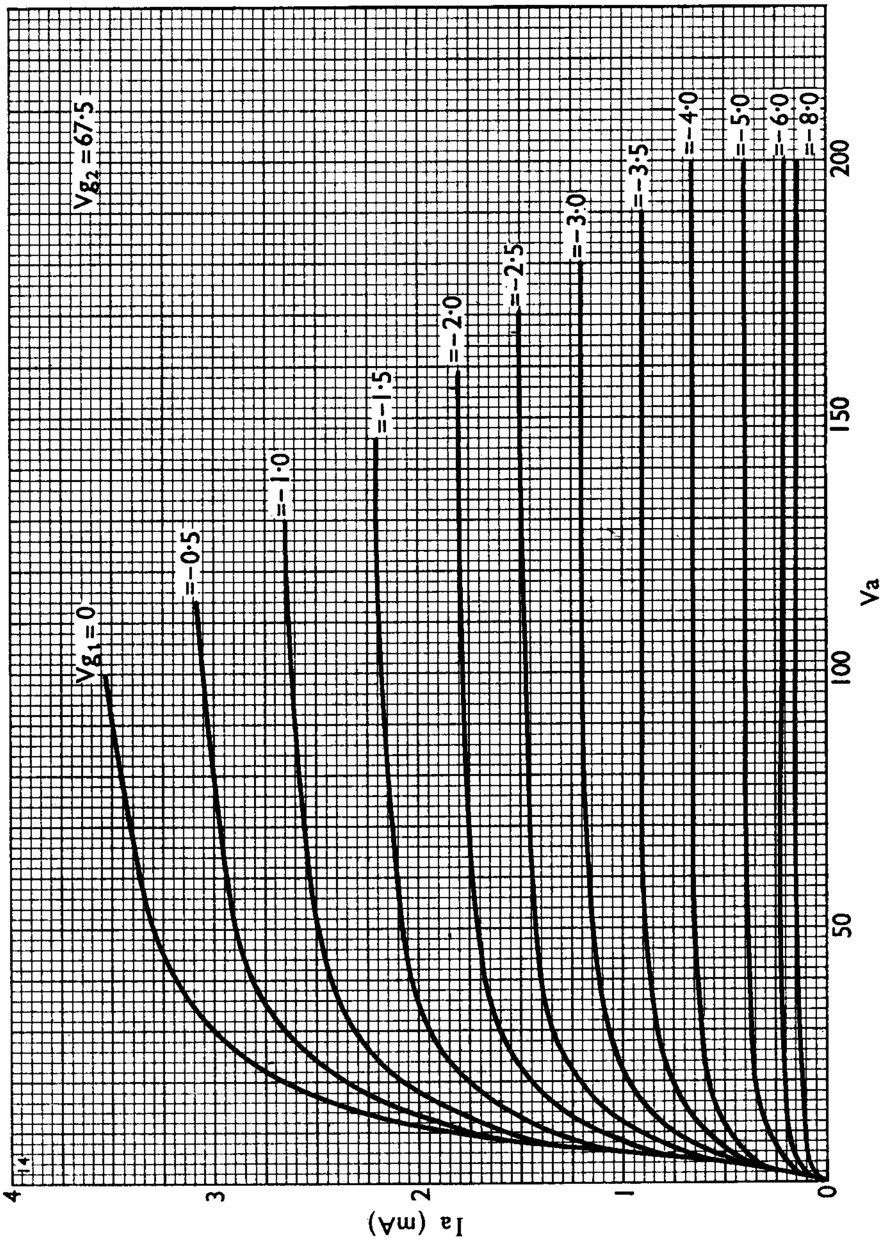
Head Office: Marconi House, Chelmsford · Telephone: Chelmsford 3221 · Telegraphic Address: Expanse, Chelmsford


TRIODE CONNECTION
Vg1=+5·0
=+2·5
=0
=−2·5
=−5·0
=−7·5
=−10·0
=−15·0
=−20.0
=−25·0
Ig1 at Vg1=+5·0
Ig1 at Vg1=+2·5
Ia and Ig1 (mA)
Va
0
1
2
3
4
5
6
7
8
25
50
75
100
125
150
15


Ia (mA)
gm (mA/V)
Va = 90
Vg2 = 67·5
Ia
gm
Vg1
16


STAGE GAIN AND ACCEPTANCE – g1 BIAS
FOR TYPICAL I F AMPLIFIER CIRCUIT
FEEDING DIODE DETECTOR.
CARRIER MODULATED 80%
1% DISTORTION OF L F OUTPUT
Va = 90
Vg2 = 67·5
STAGE GAIN
ACCEPTANCE
ACCEPTANCE VOLTAGE (RMS.)
Vg1
17

W17


$V_{g_2} = 67{\cdot}5$
$V_{g_1} = 0$
$= -0{\cdot}5$
$= -1{\cdot}0$
$= -1{\cdot}5$
$= -2{\cdot}0$
$= -2{\cdot}5$
$= -3{\cdot}0$
$= -3{\cdot}5$
$= -4{\cdot}0$
$= -5{\cdot}0$
$= -6{\cdot}0$
$= -8{\cdot}0$
Va
0
50
100
150
200
I_a (mA)
0
1
2
3
4
14